What is claimed:

1. Process for producing polypyrrole films obtained by forming polypyrrole layers on working electrodes by electrochemical polymerization methods which use pyrrole and/or pyrrole derivatives as monomers, followed by stripping off said polypyrrole layers, wherein said electrochemical polymerization methods use electrolytes which include organic compounds comprising at least one bond or one functional group of ether bond, ester bond, carbonate bond, hydroxyl group, nitro group, sulfone group, and nitryl group and / or halogenated hydrocarbon as solvents, said electrolytes include anions including trifluoromethanesulfonate ion and / or plural of fluorine atoms which bond to central atom and said working electrodes are metal electrodes.

2. Process for producing polypyrrole films as set forth in claim 1, wherein a bond or a functional group which said organic compounds have are ester bond and /or hydroxyl group functional group.

3. Polypyrrole films comprising conductive polymers produced by a production method set forth in claim 1 as resin components.

4. Polypyrrole films as set forth in claim 3, wherein tensile strength is not less than 60 MPa.

5. Processes for forming coating layers forming polypyrrole layers on metal surfaces of substrates by electrochemical polymerization methods which use pyrrole and/or pyrrole derivatives as monomers, said substrates are used as working electrodes in said electrochemical polymerization methods, said electrochemical polymerization methods use electrolytes which include organic compounds comprising at least one bond or one functional group of ether bond, ester bond, carbonate bond, hydroxyl group, nitro group, sulfone group, and nitryl group and / or halogenated hydrocarbon as solvents, and said electrolytes include anions which include trifluoromethanesulfonate ion and /or plural of fluorine atoms which bond to

central atom.

6. Substrates with polypyrrole layers formed on metal surfaces of substrates by processes for forming coating layers set forth in claim 5.

7. Electrodes for capacitors, electrodes for secondary batteries, electroluminescence elements, EC displays, magnetic wave shielding materials, and antistatic materials using polypyrrole films set forth in claim 3.

8. Electrodes for capacitors with flexibility, electrodes for secondary batteries with flexibility, electroluminescence elements with flexibility, EC displays with flexibility, magnetic wave shielding materials with flexibility, and antistatic materials with flexibility using polypyrrole films set forth in claim 3.

9. Electrodes for capacitors, electrodes for secondary batteries, electroluminescence elements, EC displays, magnetic wave shielding materials, and antistatic materials using substrates with polypyrrole films formed set forth in claim 6.

10. Electrodes for capacitors with flexibility, electrodes for secondary batteries with flexibility, electroluminescence elements with flexibility, EC displays with flexibility, magnetic wave shielding materials with flexibility, and antistatic materials with flexibility using substrates with polypyrrole films formed set forth in claim 6.